AMENDMENTS TO THE CLAIMS:

This listing of claims will replace all prior versions, and listings, of claims in the application:

LISTING OF CLAIMS:

1-15. (cancelled)

16. (previously presented) A method of extracting fat-soluble compounds from aqueous solutions comprising the steps of:

· providing an aqueous solution in which a fat-soluble compound is present;

· providing a bed of crystalline metallic ore particles held in a vessel;

· applying the aqueous solution to the bed of crystalline metallic ore particles substantially near the bottom of the bed at a rate sufficient to form and maintain a fluidized bed of crystalline metallic ore particles,

wherein the fat-soluble compound is absorbed or adsorbed by the crystalline metallic ore particles to form crystalline-metallic-ore-fat-soluble-compound complex particles,

wherein the bulk density of the particulate crystalline-metallic-ore-fat-soluble-compound complex is less than that of the particulate metallic ore, and

wherein the fluidized bed forms an upper and a lower zone, the lower zone substantially comprising crystalline metallic ore particles and the upper zone substantially

comprising crystalline-metallic-ore-fat-soluble-compound complex particles;

· collecting the crystalline-metallic-ore-fat-soluble-compound complex particles from the upper zone of the fluidized bed;

· providing a wash solution;

· contacting the wash solution with the crystalline-metallic-ore-fat-soluble-compound complex particles to desorb the fat-soluble compound;

· collecting the wash solution containing the fat-soluble compound; and

· isolating the fat-soluble compound from the wash solution.

17. (previously presented) The method as claimed in claim 16, wherein the crystalline metallic ore particles are magnetite particles.

18. (previously presented) The method as claimed in claim 16, wherein the crystalline-metallic-ore-fat-soluble-compound complex is collected by means of continuous decantation.

19. (previously presented) The method as claimed in claim 16, wherein the crystalline-metallic-ore-fat-soluble-compound complex particles are dried and stored for a period prior to being contacted with the wash solution.

20. (previously presented) A method as claimed in claim 16, wherein the fat-soluble compound is present in the aqueous

solution with a number of cells and the aqueous solution is a culture media.

21. (currently amended) A method as claimed in claim 20, wherein the cells are those of *Dunaliella salina* (*D. salina*).

22. (previously presented) A method as claimed in claim 16, wherein the fat-soluble compound is a natural pigment.

23. (previously presented) A method as claimed in claim 22, wherein the pigment is a carotenoid.

24. (previously presented) A method as claimed in claim 23, wherein the carotenoid is beta-carotene.

25. (previously presented) A method as claimed in claim 20, wherein the culture media is brine.

26. (new) A method of extracting fat-soluble compounds selected from the group consisting of beta carotene, alpha carotene, lutene, lutene monoepoxide, astaxanthin, zeaxanthin, canthaxanthin and lycopene from aqueous solutions containing *D. salina* cells comprising the steps of:

· providing an aqueous solution containing *D. salina* cells in which said fat-soluble compound is present;

· providing a bed of crystalline metallic ore particles held in a vessel;

· applying the aqueous solution containing the *D. salina* cells to the bed of crystalline metallic ore particles substantially near the bottom of the bed at a rate sufficient to form and maintain a fluidized bed of crystalline metallic ore

particles so that the *D. salina* cells are ruptured to release said fat-soluble compound,

wherein said fat-soluble compound is absorbed or adsorbed by the crystalline metallic ore particles to form crystalline-metallic-ore-fat-soluble compound complex particles,

wherein the bulk density of the said complex is less than that of the particulate metallic ore, and

wherein the fluidized bed forms an upper and a lower zone, the lower zone substantially comprising crystalline metallic ore particles and the upper zone substantially comprising said complex particles;

· collecting said complex particles from the upper zone of the fluidized bed;

· providing a wash solution;

· contacting the wash solution with said complex particles to desorb the fat-soluble compound;

· collecting the wash solution containing the fat-soluble compound; and

· isolating the fat-soluble compound from the wash solution.

27. (new) The method as claimed in claim 26, wherein the crystalline metallic ore particles are magnetite particles.

28. (new) The method as claimed in claim 26, wherein the complex is collected by means of continuous decantation.

29. (new) The method as claimed in claim 26, wherein the complex particles are dried and stored for a period prior to being contacted with the wash solution.

30. (new) A method as claimed in claim 26, wherein the aqueous solution is a culture media.

31. (new) A method as claimed in claim 26, wherein the aqueous solution is brine.

32. (new) A method as claimed in claim 26, wherein the fat-soluble compound is beta carotene.

33. (new) A method of extracting beta carotene from aqueous solutions containing *D. salina* cells comprising the steps of:

· providing an aqueous solution containing *D. salina* cells in which the beta carotene is present;

· providing a bed of crystalline metallic ore particles held in a vessel;

· applying the aqueous solution containing the *D. salina* cells to the bed of crystalline metallic ore particles substantially near the bottom of the bed at a rate sufficient to form and maintain a fluidized bed of crystalline metallic ore particles such that the *D. salina* cells are ruptured to release the beta carotene,

wherein the beta carotene is absorbed or adsorbed by the crystalline metallic ore particles to form crystalline-metallic-ore-beta carotene complex particles,

wherein the bulk density of the particulate crystalline-metallic-ore-beta carotene complex is less than that of the particulate metallic ore, and

wherein the fluidized bed forms an upper and a lower zone, the lower zone substantially comprising crystalline metallic ore particles and the upper zone substantially comprising crystalline-metallic-ore-beta carotene complex particles;

· collecting the crystalline-metallic-ore-beta carotene complex particles from the upper zone of the fluidized bed;

· providing a wash solution;

· contacting the wash solution with the crystalline-metallic-ore-beta carotene complex particles to desorb the beta carotene;

· collecting the wash solution containing the beta carotene; and

· isolating the beta carotene from the wash solution.

34. (new) The method as claimed in claim 33, wherein the crystalline metallic ore particles are magnetite particles.

35. (new) The method as claimed in claim 33, wherein the complex is collected by means of continuous decantation.

36. (new) The method as claimed in claim 33, wherein the complex particles are dried and stored for a period prior to being contacted with the wash solution.

37. (new) A method as claimed in claim 33, wherein the aqueous solution is a culture media.

38. (new) A method as claimed in claim 33, wherein the aqueous solution is brine.